



Australian Government
National Measurement
Institute

Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

No 6/14G/14

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

This is to certify that an approval for use for trade has been granted in respect of the

Mettler Toledo Garvens Model PAS3012 Automatic Catchweighing Instrument

submitted by Mettler-Toledo Limited
Unit 3, 220 Turner Street
Port Melbourne VIC 3207.

NOTE: This Certificate relates to the suitability of the pattern of the instrument for use for trade only in respect of its metrological characteristics. This Certificate does not constitute or imply any guarantee of compliance by the manufacturer or any other person with any requirements regarding safety.

This approval has been granted with reference to document NMI R 51, *Automatic Catchweighing Instruments*, dated July 2004.

CONDITIONS OF APPROVAL

This approval becomes subject to review on 1 April 2016, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked with approval number 'NMI 6/14G/14' and only by persons authorised by the submittor.

Instruments purporting to comply with this approval and currently marked 'NMI P6/14G/14' may be re-marked '6/14G/14' but only by persons authorised by the submittor.

It is the submittor's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the National Measurement Institute (NMI) and with the relevant Certificate of Approval and Technical Schedule. Failure to comply with this Condition may attract penalties under Section 19B of the National Measurement Act and may result in cancellation or withdrawal of the approval, in accordance with document NMI P 106.

The National Measurement Institute reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificate No S1/0/A.

This approval shall NOT be used in conjunction with General Certificate No 6B/0.

Special Condition of Approval:

This approval is limited to two (2) instruments (serial numbers 170481 and 170482) located at Solex Products, 16 Railway Street, Lidcombe NSW.

DESCRIPTIVE ADVICE

Pattern: provisionally approved 9 March 2006
re-approved 15 March 2011

- A Mettler Toledo Garvens model PAS3012 class Y(a) automatic catchweighing instrument with a maximum capacity of 6000 g and a verification scale interval of 2 g.

Technical Schedule No 6/14G/14 describes the pattern.

FILING ADVICE

This documentation replaces the Interim Provisional Certificate of Approval No P6/14G/14 dated 9 March 2006.

The documentation for this approval now comprises:

Certificate of Approval No 6/14G/14 dated 16 March 2011
Technical Schedule No 6/14G/14 dated 16 March 2011 (incl. Test Procedure)
Figure 1 dated 16 March 2011

Signed by a person authorised by the Chief Metrologist
to exercise his powers under Regulation 60 of the
National Measurement Regulations 1999.



TECHNICAL SCHEDULE No 6/14G/14

Pattern: Mettler Toledo Garvens Model PAS3012 Automatic Catchweighing Instrument

Submittor: Mettler-Toledo Limited
Unit 3, 220 Turner Street
Port Melbourne VIC 3207

1. Description of Pattern

A Mettler Toledo Garvens model PAS3012 class Y(a) automatic catchweighing instrument (Figure 1) which is approved for use to weigh objects dynamically (i.e. while in motion). Items described as Garvens model ..., or similar may alternatively be known as Mettler Toledo model ..., and vice versa. The instrument is a single interval catchweighing instrument with a verification scale interval of 2 g and a maximum capacity of 6000 g. Instruments have a minimum capacity of 42 g.

The maximum belt speed of the instrument is 50 m/min however the belt speed may be varied below this value. The throughput is variable (up to 60 pieces/min).

Instruments may be fitted with sockets (output interfacing capability) for the connection of peripheral and/or auxiliary devices, and for the external programming of product look up (PLU) and labelling data.

Instruments are intended to be installed in a fixed location.

Notes:

1. Instrument performance may be affected by various installation-related issues such as wind, vibration, and the stability of the mounting. Measures may be required to ameliorate such influences, for example by providing screens against wind.
2. The instrument is only approved in situations where the weight value determined for each item is actually to be used as the basis of a transaction. This may for example be by the value being printed and affixed to the item, or by association of the weight value with identification from the particular item (e.g. by a barcode which individually identifies the item) for later billing.

1.1 Details

The Mettler Toledo model Garvens PAS3012 weighing system comprises:

- (a) a Mettler Toledo model ID-30 touch screen LCD terminal/indicator (also known as Mettler Toledo or Garvens PAS-30 terminal/indicator) which consists of an 'ELO box' containing the control unit, and a 'HMI box' containing the display and operator control panel (Figure 1). The indicator displays the weight (in kg or g) and may have provision for price calculation, with unit price to \$999.99/kg, a product-look-up (PLU) facility and a separate 'tare' display.

- (b) a weighing unit and conveyor system with associated controller, incorporating a Garvens model BF20 load cell (which operates on the electromagnetic force compensation principle). The weighing unit incorporates a Garvens model BF20 load cell of 20 kg maximum capacity (which operates on the electromagnetic force compensation principle). The belt conveyor-type load receptor has a conveyor length of 400 mm (measured between the conveyor axles) and a width of 300 mm.
- (c) a printing unit that is comprised of a thermal printer, a roll of labels and a unit used to apply the label to the weighed object (e.g. the label may be applied by compressed air or by a piston).

1.2 Zero

The instrument may have an initial zero-setting device with a nominal range of not more than 20% of the maximum capacity of the instrument.

The instrument has a semi-automatic zero-setting device with a nominal range of not more than 4% of the maximum capacity of the instrument, capable of setting zero to within $\pm 0.25e$.

The instrument has an automatic zero-setting facility, operating as part of the automatic weighing sequence to maintain zero to within $\pm 0.25e$.

1.3 Tare

The instrument has a pre-set subtractive taring device of up to maximum capacity. Pre-set tare values may be input manually, or may be stored in association with product-look-up (PLU) items.

1.4 Operation

In dynamic mode, an object to be weighed moves from the infeed conveyor (the infeed conveyor may need to slow or stop to separate items) onto the weighing receptor conveyor and is weighed dynamically. After weighing, the object continues onto the outfeed conveyor where a label is then printed and applied to the object.

The weighing unit includes optical sensors to detect the package as it travels along the conveyors, and the instrument has facilities to detect errors and provide error messages for situations outside the speed and package size limits.

1.5 Sealing Provision

Provision is made for the calibration adjustments of the instrument to be sealed. A non-resettable counter is incremented whenever an adjustment of the instrument occurs (access to adjustment facilities is password protected).

The counter value can be accessed by pressing 'info' on the instrument display. A screen is shown which includes "Cell Approval Code:" followed by a number e.g. 7. This is the counter number to be recorded as indicated below.

The counter value at the time of verification shall be recorded on a destructible adhesive label attached to the instrument (other similar methods for recording the value may also be acceptable).

Any subsequent alteration to the calibration or parameters will be evident as the recorded value and the current calibration event counter value will differ.

1.6 Markings and Notices

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Mettler Toledo Garvens GmbH, Germany
Importer's mark, or name written in full	Mettler Toledo Limited
Model designation
Serial number
Accuracy class	Y(a)
Pattern approval mark	6/14G/14
Maximum capacity	Max kg (*)
Minimum capacity	Min kg (*)
Verification scale interval	e =..... kg (*)
Maximum conveyor speed m/min

- (*) These markings are also shown near the display of the result if they are not already located there.

1.7 Verification Provision

Provision is made for a verification mark to be applied.

TEST PROCEDURE

Instruments should be tested in accordance with any relevant tests specified in the Uniform Test Procedures.

Ensure that instruments are only being used up to the maximum belt speed of 50 m/min.

A. Non-automatic (static) Operation

The maximum permissible errors for increasing and decreasing loads on initial verification for loads, m , expressed in verification scale intervals, e , are:

- $\pm 0.5e$ for loads $0 \leq m \leq 500$;
- $\pm 1.0e$ for loads $500 < m \leq 2\,000$; and
- $\pm 1.5e$ for loads $2\,000 < m \leq 10\,000$.

- With the conveyor switched off, carry out a load test and an eccentricity test.

B. Automatic Operation

The maximum permissible errors for class Y(a) automatic catchweighing instruments for increasing and decreasing loads on initial verification for loads, m , expressed in verification scale intervals, e , are:

- $\pm 1.5e$ for loads $0 \leq m \leq 500$;
- $\pm 2e$ for loads $500 \leq m \leq 2\,000$; and
- $\pm 2.5e$ for loads $2\,000 \leq m \leq 10\,000$.

- Prepare two test objects, one close to minimum capacity and the other close to the maximum capacity. The uncertainty of the test masses shall be equal to or better than $0.5e$.
- The tests shall be conducted at the maximum rate at which the system will operate (i.e. introduce packages immediately after each other).
- Vary the position of the test masses across the load receptor.
- Conduct a test to ensure incorrect measurements do not occur due to items being provided to the instrument without adequate spacing.

TESTS – Use the following tests to determine compliance with the maximum permissible errors – n is a whole number.

TEST 1 – Maximum permissible error = $\pm 1.5e$

Test load = ne

Readings:	A: $(n - 2)e$	reject
	B: $(n + 2)e$	reject
	$A < \text{Readings} < B$	accept

TEST 2 – Maximum permissible error = $\pm 2e$

Test load = $(n + 0.5)e$

Readings:	A: $(n - 2)e$	reject
	B: $(n + 3)e$	reject
	$A < \text{Readings} < B$	accept

TEST 3 – Maximum permissible error = $\pm 2.5e$

Test load = ne

Readings:	A: $(n - 3)e$	reject
	B: $(n + 3)e$	reject
	$A < \text{Readings} < B$	accept

FIGURE 6/14G/14 – 1



(a) Mettler Toledo Garvens Model PAS 3012 Catchweighing Instrument



(b) Typical operator display